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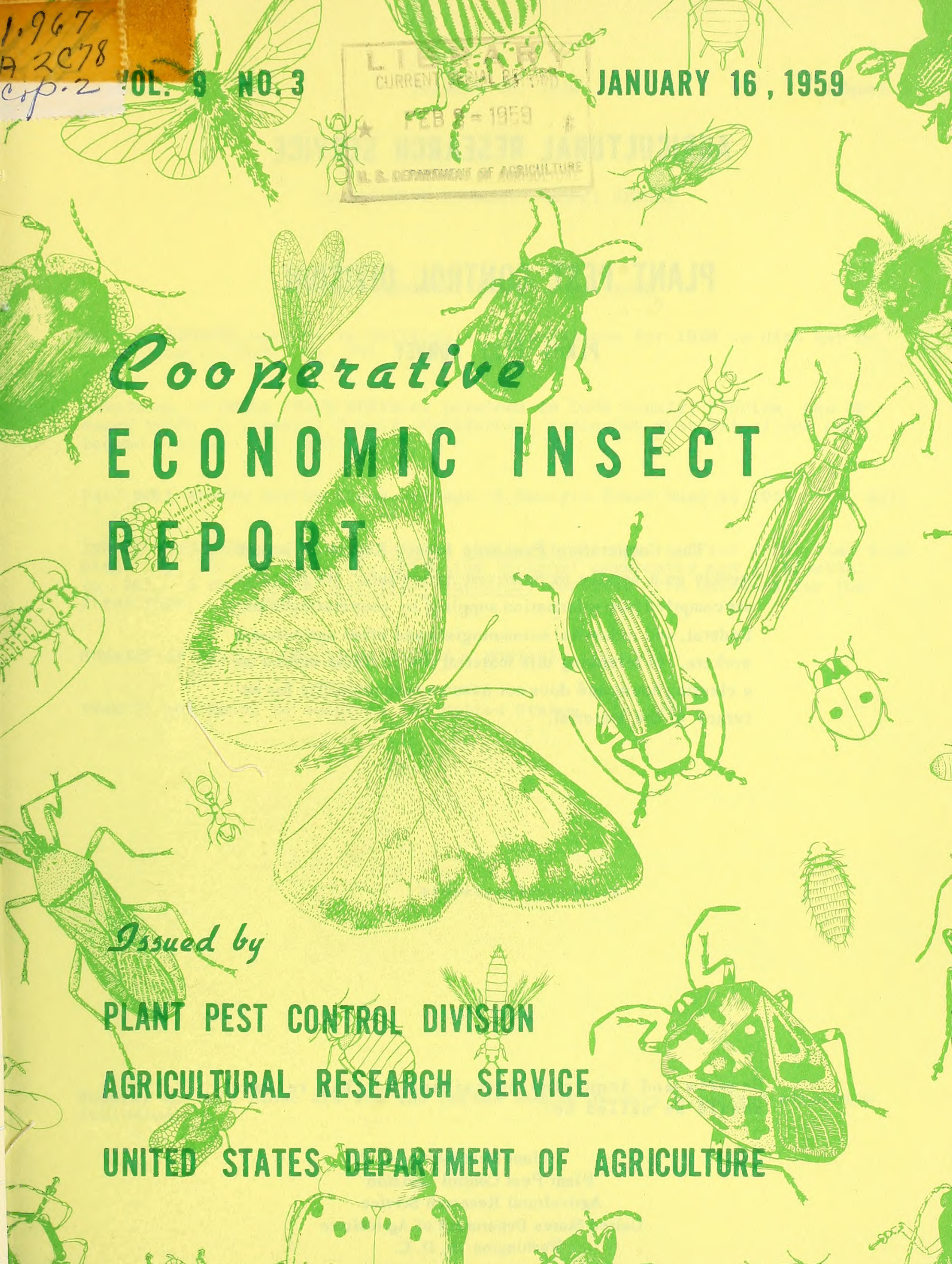

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

PLANT PEST SURVEY

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 9 January 16, 1959 Number 3

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

BEET LEAFHOPPER surveys in California. Populations for 1959 in Utah may be lower than in 1958. (p. 20).

Abundance of GREEN PEACH APHID on potatoes in Dade County, Florida, and on sugar beets in Imperial County, California, indicates that situations may become serious. (p. 20).

Fall BOLL WEEVIL survey State average in Georgia lower than in 1957. (p. 21).

INSECT DETECTION: A weevil (Sitona californicus) reported for first time from Utah. (p. 19). A black fly (Simulium decorum) apparently new to Florida. (p. 22). A zorapteron (Zorotypus hubbardi) reported from Oklahoma for the first time. (p. 22).

SUMMARY OF INSECT CONDITIONS - 1958 - MONTANA. (p. 23).

INSECTS not known to occur in the United States. (p. 27).

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Reports in this issue are for the period ending January 9, unless otherwise indicated.

WEATHER FOR THE WEEK ENDING JANUARY 12, 1959

Last week was one of rising temperatures in the western half of the Nation, but extreme cold continued to grip the East as a new surge of Arctic air late in the week pushed the freeze line deep into the Florida Peninsula. Temperatures for the week averaged above normal in the West and below in the East, with the dividing line joining Duluth, Minnesota, and El Paso, Texas. Average departures from normal ranged from 12° above in the Pacific Northwest to 15° below in the upper Ohio Valley. This week was warmer than the previous week by 8° at Phoenix, Arizona, 16° at Boise, Idaho, and 24° at Amarillo, Texas, and Denver, Colorado, but colder than the previous week by 10° at New Orleans, Louisiana, 12° at Detroit, Michigan, 19° at Pittsburgh, Pennsylvania, and 14° at Jacksonville, Florida. By the end of the week, freezing extended into the Everglades of Florida, with scattered, light frost near Lake Okeechobee and heavy frost away from the lake. At most locations where freezing occurred, however, duration of critical temperatures was short and crop damage was mostly minor.

Strong winds on several days in the Northeast made the cold more disagreeable and increased heating requirements. Ice in the Chesapeake Bay and its inflowing tributaries is now the heaviest in many years this early in the season. In northern areas, where extreme lows ranged from -37° at Winter, Wisconsin, to -17° at Newport, Vermont, ice was 16 inches thick at Greenville, Maine, 21 inches at Minneapolis, Minnesota, and 24 inches at Bismarck, North Dakota. Frost penetration in the ground ranged from 2 to 3 feet in northeastern Connecticut, and was as much as 12 inches in parts of Kansas. Moderate to heavy precipitation was mainly limited to the Pacific States and parts of the South. Totals up to 7.5 inches were reported along the north Pacific coast, with moderate to heavy amounts as far south as Santa Maria, California. Heavy snow fell in the Cascade and Sierra Nevada Mountains, and several inches in the wheat areas of eastern Washington, northeastern Oregon and in the upper Sacramento Valley of California. Most snow which fell at lower elevations in the Far West, however, melted before the end of the week. Winds caused widespread damage in California on the 4th and 5th. The week's precipitation was negligible in most of the midcontinental area, and by the end of the week the snow cover east of the Rockies had retreated mostly to the Canadian Border States. (Summary supplied by U. S. Weather Bureau.)

CEREAL AND FORAGE INSECTS

CHINCH BUG (*Blissus leucopterus*) - OKLAHOMA - Hibernation survey in 6 additional south central counties showed very severe infestations of 3,980 bugs per square foot in Bryan and 2,783 per square foot in Murray Counties. (VanCleave, Vick, Drew).

GREENBUG (*Toxoptera graminum*) - LOUISIANA - Very low numbers on oats in East Baton Rouge Parish. (Spink). TEXAS - Of 7 panhandle counties surveyed in December, 1958, spotted infestations of 5-20 per foot were found in Deaf Smith, Castro and Parmer Counties. (Daniels). A light infestation was observed on oats in Falls County. (Woods).

SPOTTED ALFALFA APHID (*Therioaphis maculata*) - OKLAHOMA - Total counts in each of 3 Payne County fields on January 9 were 95, 103 and 16, as compared with 868, 1,136 and 91 on December 6, 1958. (Bieberdorf). Heavy infestation caused serious damage to a field of fall-planted alfalfa in same county. Control measures needed. (Henderson, Drew, VanCleave). KANSAS - Counts per 25 plants were 48 in Pottawatomie and 27 in Riley Counties. (Simpson).

APHIDS - TEXAS - Light, spotted infestations of *Rhopalosiphum fitchii*, *R. subterraneum* and *R. maidis* are present in panhandle area. (Daniels).

SPOTTED CUCUMBER BEETLE (*Diabrotica undecimpunctata howardi*) - LOUISIANA - Averaged 25 per 100 sweeps on oats in East Baton Rouge Parish. (Spink).

A WEEVIL (*Sitona californicus*) - UTAH - Specimens collected at La Verkin, Washington County, and Providence, Cache County, may be new state record. Det. V. M. Tanner. (Knowlton).

FRUIT INSECTS

AVOCADO RED MITE (*Oligonychus yothersi*) - FLORIDA - All stages averaged 0-3 per leaf in avocado groves inspected. Much less abundant than usual and probably less so than over a decade. (Fla. Coop. Sur., Dec. 31, 1958).

HICKORY SHUCKWORM (*Laspeyresia caryana*) - TEXAS - Caused some damage to pecans in Smith County. (Pryor).

NAVEL ORANGEWORM (*Paramyelois transitella*) - CALIFORNIA - Heavy in walnuts in Madera, Madera County, and light in walnuts in El Cajon and medium in oranges in Escondido, San Diego County. (Cal. Coop. Rpt.).

SCALE INSECTS - CALIFORNIA - *Coccus hesperidum* medium on citrus and *Lepidosaphes ficus* light on fig trees, both in Orland, Glenn County. *Aonidiella citrina* heavy on an orange tree in Santa Paula, Ventura County. (Cal. Coop. Rpt.).

Citrus Insect and Mite Outlook, Lake Alfred, Florida - Infestations of FLORIDA RED SCALE will be high through January, and decline in February. The level will generally be below average from April to the end of 1959. A below average level of CITRUS RED MITE will occur in January and continue through the quarter. CITRUS RUST MITE infestations, during January, will start to decline from the present level but will remain above the season average through March. TEXAS CITRUS MITE will not exceed normal levels. SIX-SPOTTED MITE will be at a low level throughout 1959. (Simanton, Jan. 6).

TRUCK CROP INSECTS

BEET LEAFHOPPER (*Circulifer tenellus*) - CALIFORNIA - Surveys the first part of December, 1958, showed a light population of 1-2 per sweep for a series of 10 sweeps, with some high counts of 5-8, throughout the breeding grounds on brushy perennials. Toward the end of the month, drying conditions caused a movement onto greener perennials in canyons adjacent to Coalinga, with averages of 2-15 per sweep. Drying of hemizonia from Los Banos Creek to Little Panoche Creek caused a concentration on greener plants in the swales. Should the drought continue and heavy concentrations persist, some spraying may be accomplished in these areas. A survey on 1,000 acres of saltbush near Niland, in Imperial Valley, showed the November population of 4 per 10 sweeps had been reduced to one in December. Beet leafhoppers averaged 8 per 100 sweeps in 22 beet fields checked, with the highest population of 2-5 per 10 sweeps in a series of 100 sweeps being in 2 fields east of Calipatria. Some curly-top damage was found in most fields, highest being 12-15 percent. Some plantings may suffer considerable additional damage unless control measures are taken. Survey of breeding grounds in the Otay Mesa area, San Diego County, showed that practically no winter vegetation had germinated and only an occasional beet leafhopper was found on Australian saltbush, mustard and other weed hosts. Approximately 300 acres of California scalybroom checked in Navaho Canyon, San Luis Obispo County, averaged 2.5 beet leafhoppers per sweep for a series of 10 sweeps. (Cal. Beet Leafhopper Prog. Rpt. 58-12). UTAH - Early indications are that the 1959 population will be much lower than that of 1958. (Dorst, Knowlton).

STRAWBERRY LEAF ROLLER (*Ancylis comptana fragariae*) - CALIFORNIA - Heavy on strawberry plantings in the Watsonville area, Santa Cruz County. (Cal. Coop. Rpt.).

GREEN PEACH APHID (*Myzus persicae*) - FLORIDA - Counts ranged one to hundreds per potato plant in Redlands area, Dade County, 6 weeks or more earlier than usual. Winged forms dispersing widely. Abundance such that species may become serious. (Fla. Coop. Sur., Dec. 31, 1958). CALIFORNIA - Heavy on sugar beets in Brawley-El Centro area of Imperial County. Intensity of infestation indicates it may become severe in February. (Dickson).

POPLAR PETIOLE GALL APHID (*Pemphigus populi-transversus*) - LOUISIANA - On roots of watercress in New Orleans area. (Spink).

A SERPENTINE LEAF MINER (*Liriomyza* sp.) - FLORIDA - All stages averaged 2-3 per plant on many inspected on beans, potatoes and tomatoes in Redlands area, Dade County. General abundance indicates it may become serious in the area. (Fla. Coop. Sur., Dec. 31, 1958).

A MAGGOT (*Hylemya* sp.) - TEXAS - Larvae caused concern and reduced stands of onions on new land in Dimmit County. (Harding).

ONION THRIPS (*Thrips tabaci*) - TEXAS - Averaged 0-2 per onion plant in Dimmit County. Heavy in poorly treated seed beds. (Harding).

EARWIGS - LOUISIANA - Caused considerable damage to potatoes stacked in field for winter consumption. (Spink).

COTTON INSECTS

BOLL WEEVIL (*Anthonomus grandis*) - GEORGIA - Fall examinations of surface woods trash adjacent to old cotton fields, to determine the number of boll weevils in hibernation, were made in 4 regions November 25 to December 12, 1958. The average for the State was 1,133 live weevils per acre of surface trash. This is lower than the 8-year average of 1,279 and of 1957 when the counts averaged 2,081 weevils. Area averages for 1958 and 1957 were, northwest (Gordon County) 774 and 1,113; north central (Butts, Spalding, Pike, Coweta and Meriwether Counties) 2,178 and 5,034; east central (Burke County) 387 and 1,791; and south (Tift County) 145 and 387. The averages for 1958 are lower than they were for 1957 in each of the 4 areas. A total of 5 samples, or 90 square feet, were taken from each of 50 farms. Live weevils were found on 54 percent of the farms examined. The maximum number of weevils per acre found on a single farm was 9,196 in Coweta County. (Beckham, Morgan).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

A LEAF ROLLER (*Amorbia essigana*) - CALIFORNIA - Heavy on English laurel in Fairfield, Solano County. (Cal. Coop. Rpt.).

A GALL MIDGE (*Walshomyia juniperina*) - CALIFORNIA - Medium infestations of juniper berries in the Coalinga area of Fresno County. (Cal. Coop. Rpt.).

CURRANT BORER (*Ramosia tipuliformis*) - CALIFORNIA - Heavy in currants in Watsonville, Santa Cruz County. (Cal. Coop. Rpt.).

A MEALYBUG (*Pseudococcus aurilanatus*) - CALIFORNIA - Heavy on araucaria in San Mateo, San Mateo County. (Cal. Coop. Rpt.).

A BARK BEETLE (*Pityophthorus nitidulus*) - CALIFORNIA - Heavy on shore pine in the Crescent City area, Del Norte County. (Cal. Coop. Rpt.).

SCALE INSECTS - TEXAS - *Fiorinia theae* medium on holly leaves in Fort Bend County. (Nowotuy). CALIFORNIA - *Aonidiella aurantii* heavy on holly in Fresno, Fresno County, and *Saissetia oleae* medium on California sagebrush in Prunedale, Monterey County. (Cal. Coop. Rpt.).

WHITEFLIES - TEXAS - Caused some damage to gardenia plants in Franklin and Hill Counties. (Johnson, Brown). CALIFORNIA - *Aleyrodes spiraeoides* heavy on bridal wreath in Willows, Glenn County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE GRUBS (*Hypoderma* spp.) - NORTH CAROLINA - None found in 24 cows and 31 calves of State College beef herd. One small grub found in 20 fat calves examined that were brought from Tyrrell County, June 30, 1958. (Jones, Farrier). OKLAHOMA - *H. lineatum* averaged 12-15 per animal in 80 yearling steers examined in Woodward County. Averaged 15-18 per animal in Harper County. In 100 mature cows, the average was 7 per animal. (Taylor, Zeve, Howell). KANSAS - None found in 11 untreated native yearling heifers. Averaged 0.13 per animal in 58 treated yearling steers brought in from outside the State, with 4 animals infested. Of 61 untreated yearling steers from outside the State, 48 head were infested with an average of 16.8 grubs. Larvae averaged 11.1 per animal (56 head infested) in 87 animals brought into the State. All cattle examined were in Ellis County. (Knapp, Peters).

A BLACK FLY (*Simulium decorum*) - FLORIDA - Adults reported biting humans at Gretna, Gadsden County, Dec. 10, 1958. Det. A. Stone. This is apparently a first record of this species from the State. (Fla. Coop. Sur.).

CATTLE LICE - KANSAS - Heavy on a herd in Ellis County. (Peters). OKLAHOMA - None found on cattle examined in Woodward and Harper Counties. (Taylor, Zeve, Howell).

NORTHERN FOWL MITE (*Ornithonyssus sylviarum*) - KANSAS - Flock of 600 hens infested in Riley County. (Knapp).

STORED-PRODUCT INSECTS

KHAPRA BEETLE (*Trogoderma granarium*) - CALIFORNIA - A light infestation of a feed lot in Thermal, Riverside County, is the fourth active infestation in the State at present. Inspections on 305 properties in 13 counties gave negative results. (Cal. Coop. Rpt.).

FLAT GRAIN BEETLE (*Laemophloeus pusillus*) - TEXAS - Medium in milo in Hays County. (Watson).

RED-LEGGED HAM BEETLE (*Necrobia rufipes*) - VIRGINIA - Heavily damaged stored hams at a home in Spotsylvania County. (Morris, Kash, Jan. 3).

INDIAN-MEAL MOTH (*Plodia interpunctella*) - NORTH CAROLINA - Infestation in corn in a warehouse in Robeson County. (Owens, Rabb).

MISCELLANEOUS INSECTS

A SEED BEETLE (*Caryoborus serripes*) - FLORIDA - Collected alive Dec. 3, 1958, in the seed of 2 species of palms at Miami, Dade County. Det. P. J. Spangler. The species has been intercepted a number of times but so far as is known has not become established in the United States. The seed had been imported from South America for oil extraction and has been destroyed by burning. (Fla. Coop. Sur.).

DERMESTID BEETLES - VIRGINIA - Larvae present in 2 packages of cayenne pepper when opened, Blacksburg, Montgomery County. (Amos).

A WEEVIL (*Gymnaetron tetrum*) - CALIFORNIA - Heavy on weed hosts in the Lodi area of San Joaquin County. (Cal. Coop. Rpt.).

EARWIGS - LOUISIANA - Heavy in slab homes in New Orleans area. (Spink).

A ZORAPTERON (*Zorotypus hubbardi*) - OKLAHOMA - Specimen found in decaying sawdust near Harris, McCurtain County, December 31, 1958, constitutes first record for the State. (VanCleave, Goin, Jan. 3).

LIGHT TRAP COLLECTIONS

	Pseudaletia unipuncta	Agrotis ypsilon	Feltia subterranea
FLORIDA			
Quincy 12/30/58			1
LOUISIANA			
Baton Rouge 1/2-8	2	11	4
Franklin 1/7, 8	12	1	2

SUMMARY OF INSECT CONDITIONS - 1958

MONTANA

Reported by George Roemhild

Highlights: Enormous flights of BEET WEBWORM (*Loxostege sticticalis*) moths were observed in practically all counties of the State from June 10 to 20. Larval damage occurred from July 1 to 30. Sugar beets, alfalfa, mustard, flax, rape, garden plants and ornamentals were injured. In some cases, larvae fed only on weeds. ENGLISH GRAIN APHID (*Macrosiphum granarium*) was common in wheat over wide areas in northern and western Montana during July, but little damage resulted. GRASSHOPPER infestations subsided substantially from the infested acreage in 1957.

Cereal and Forage Insects: Numerous reports of large GRASSHOPPER hatches were received in the spring. However, in many cases the grasshoppers died, in other cases no hatches occurred in areas heavily infested in 1957. No consistent factor could be found to account for their disappearance. Populations subsided in the northeastern area under extreme drought, in the central area with average moisture and in the southwestern area with abundant moisture. Conversely, populations remained high in the northwestern area under dry conditions and in the south central area after two years of heavy rains. Many range infestations were of mixed species. Infestations in the northwestern area were mostly *Melanoplus bilituratus*. Only one infestation of MORMON CRICKET (*Anabrus simplex*) was of consequence in 1958. About 5,000 acres in Powell County was infested up to 300 per square yard. No damage to range grasses occurred when control was instigated. One damaging infestation of ARMY CUTWORM (*Chorizagrotis auxiliaris*) occurred in Liberty County. BLISTER BEETLES (*Lytta cyanipennis* and *Pyrota mylabrina*) attacked alfalfa and ornamentals in scattered spots over State. FLEA BEETLES (*Systena blanda* and *Phyllotreta pusilla*) were generally abundant, damaging alfalfa, potatoes and potato tubers. LYGUS BUGS were common and damaging over the State. Pastures in Lake and Fergus Counties, and wheat in Park County, were damaged. ALFALFA WEEVIL (*Hypera postica*) caused heavy damage in new areas of infestation in Cascade, Teton, Hill and Blaine Counties. ALFALFA LOOPER (*Autographa californica*) was more abundant than usual statewide, damaging fields in Teton, Stillwater, Judith Basin and Broadwater Counties. PEA APHID (*Macrosiphum pisi*) damage occurred to some new seeding alfalfa fields. Most populations kept in check by predators. CLOVER ROOT CURCULIO (*Sitona hispidula*) caused severe damage to alfalfa in a pasture seeding mix in Broadwater County.

Light infestations of PALE WESTERN CUTWORM (*Agrotis orthogonia*) in small grains were noted in Fallon, Liberty and Teton Counties. WHEAT STEM SAWFLY (*Cephus cinctus*) remains a problem in small grains in the north central and northeastern areas where Rescue wheat is not grown. Scattered light infestations of WHEAT CURL MITE (*Aceria tulipae*), resulting in wheat streak mosaic, occurred in north central and eastern areas of State. Scattered light infestations of WHEAT HEAD ARMYWORM (*Faronta diffusa*) were present in the triangle area bounded by Havre, Shelby and Great Falls. Little damage resulted. A general low-level population of WHITE-LINED SPHINX (*Celerio lineata*) developed in the northwest and just east of the mountains. Very little damage resulted since feeding was confined mostly to weeds. One field of small grain was reported severely damaged by HESSIAN FLY (*Phytophaga destructor*) along the Tongue River. An infestation of ARMYWORM (*Pseudaletia unipuncta*) in wheat in Phillips County resulted in little damage.

Fruit Insects: CODLING MOTH (*Carpocapsa pomonella*) was abundant in apple growing areas where control measures were not applied. APPLE APHID (*Aphis pomi*) caused little damage since control measures were generally applied early in 1958. Heavy infestations of PEAR LEAF BLISTER MITE (*Eriophyes pyri*) occurred where no control was applied. A great increase in numbers was noticed. EYE-SPOTTED BUD MOTH (*Spilonota ocellana*)populations declined during 1958. Infestations were generally centered in Ravalli County. Control for BLACK CHERRY FRUIT FLY (*Rhagoletis fausta*) was general in commercial orchards. Damage to unprotected fruit was high. High populations of WESTERN CHERRY FRUIT FLY (*Rhagoletis cingulata indifferens*) were found in several orchards near Polson. BLACK CHERRY APHID (*Myzus cerasi*) was abundant in most cherry growing areas in western part of State. Heavy late infestations of MITES (*Vasates fockeui* and *Diptacus gigantorhynchus*) developed in 1958. Apple trees were heavily infested by RED-HUMPED CATERPILLAR (*Schizura concinna*) in the western part of the State. PEAR-SLUG (*Caliroa cerasi*) populations were very heavy. Considerable damage occurred where pear-slug was not controlled. OYSTERSHELL SCALE (*Lepidosaphes ulmi*) caused severe damage to twigs and fruit where not controlled. ERIOPHYID MITES were present in large areas of the State and caused considerable damage to apple, chokecherry, cherry and plum trees. A BORER, closely related to peach tree borer, infested cherry trees in Lake County. PLUM GOUGER (*Anthonomus scutellaris*) populations were considerably reduced. Scattered infestations of CURRANT FRUIT FLY (*Epochra canadensis*) were reported from most areas. Heavy populations of CURRANT APHID (*Capitophorus ribis*) were scattered both east and west of the mountains.

Truck Crop Insects: Extremely heavy populations of ONION MAGGOT (*Hylemya antiqua*) occurred in the south and west during 1958. Usual seed treatment control measures failed in some cases, with heavy side dressings of insecticide being required. As LEAFHOPPERS were common, virus diseases transmitted by these insects were more prevalent. Aster yellows occurred on ornamentals, lettuce and flax, while curly top was more common on sugar beets. This latter disease infected commercial tomato plantings near Missoula, causing severe damage. EUROPEAN EARWIG (*Forficula auricularia*) was common in Bozeman, Livingston and surrounding areas, feeding heavily on sweet corn and ornamentals. SPINACH LEAF MINER (*Pegomya hyoscyami*) damaged spinach and beets in Broadwater County during July. Asparagus spears were severely damaged by ASPARAGUS BEETLE (*Crioceris asparagi*) west of the divide and in Gallatin County. Large populations of DIAMONDBACK MOTH (*Plutella maculipennis*) occurred in north central mustard and rape fields during July. Damage was general, but not severe in most cases. A great deal of damage was caused by SUGAR-BEET ROOT MAGGOT (*Tetanops myopaeformis*) in localized areas during the past two years, with fields 95 percent destroyed in some cases. Infestation was more widespread in 1958 than 1957, with damage in the Yellowstone and Bitterroot Valleys. COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) populations were light to heavy in localized areas west of the mountains. Adult flights of IMPORTED CABBAGEWORM (*Pieris rapae*) were heavy west of the divide, with control required in many cases.

Forest, Ornamental and Shade Tree Insects: CARPENTERWORM (*Prionoxystus robiniae*) attacked ash, cottonwood, elm, boxelder and Chinese elm trees in eastern and northeastern parts of the State. A general statewide outbreak of TENT CATERPILLARS (*Malacosoma fragilis* and *M. disstria*) occurred on various ornamental, fruit and shade trees. EUROPEAN FRUIT LECANIUM (*Lecanium corni* complex) has become abundant the past two years on rose and caragana. MOURNING-CLOAK BUTTERFLY (*Nymphalis antiopa*) populations were generally lower in 1958. MITES were extremely abundant on ornamentals during August and September. An ASH GALL MITE was common on mountain ash in south central and western areas and a MAPLE LEAF GALL MITE attacked maple and boxelder in central and western areas. ASH PLANT BUG (*Neoborus amoenus*) was common statewide. SAN JOSE SCALE (*Aspidiotus perniciosus*) occurred on ash and mountain ash in north central and western areas and a BOXELDER TWIG BORER (*Proteoterus* sp.) damaged maples in Billings. COTTONWOOD LEAF BEETLE (*Chrysomela scripta* complex) was very abundant in the plains area and a COTTONWOOD LEAF MINER (*Proleucoptera albella*) was common in the north central part of the State. POPLAR PETIOLE GALL APHID (*Pemphigus populi-transversus*) was also abundant in the plains area. POPLAR VAGABOND APHID (*Mordwilkoja vagabunda*) was very common on cottonwoods. A LEAF MINER (*Phyllocnistis populiella*) was abundant on poplar in the southern mountain area. ELM LEAF APHID (*Myzocallis ulmifollii*) was common on elms over the State and EUROPEAN ELM SCALE (*Gossyparia spuria*) was scattered west of the divide. LILAC LEAF MINER (*Gracilaria syringella*) was very abundant in western half of the State and POPLAR AND WILLOW BORER (*Sternochetus lapathi*) was found in Hill County for a first record east of the divide. DRIED-FRUIT BEETLE (*Carpophilus hemipterus*) damaged rose buds in Rosebud County. Forest infestations of SPRUCE BUDWORM (*Choristoneura fumiferana*) were apparently considerably reduced. About 90 percent of the 825,000 acres in the State treated for control of this insect developed large populations of SPRUCE SPIDER MITE (*Oligonychus ununguis*). There were scattered, moderate infestations of PINE NEEDLE SCALE (*Phenacaspis pinifoliae*) statewide. COOLEY SPRUCE GALL APHID (*Chermes cooleyi*) was abundant in the western half of the State and a PITCH TWIG MOTH (*Petrova* sp.) damaged growing tips of shelterbelt pines in Hill County in June. Infestation of a CHOKECHERRY MIDGE was general over most of the State.

Stored-grain Insects: In general, more stored-grain insects appeared in the fall of 1958 than during the past few years. Common species were RUSTY GRAIN BEETLE (*Laemophloeus ferrugineus*), SAW-TOOTHED GRAIN BEETLE (*Oryzaephilus surinamensis*), FLOUR BEETLES (*Tribolium confusum*, *T. castaneum*, *T. madens*), GRANARY WEEVIL (*Sitophilus granarius*), CADELLE (*Tenebroides mauritanicus*) and PSOCIDS.

Insects Affecting Man and Animals: BLACK WIDOW SPIDER (*Latrodectus mactans*) became very common, but BED BUG (*Cimex lectularius*) was generally not very common. Several people in Powder River County were bitten by an ASSASSIN BUG (*Fitchia aptera*) and several home and hotel infestations of SWALLOW BUG (*Oeciacus vicarius*) were reported. ROCKY MOUNTAIN WOOD TICK (*Dermacentor andersoni*) populations were normal.

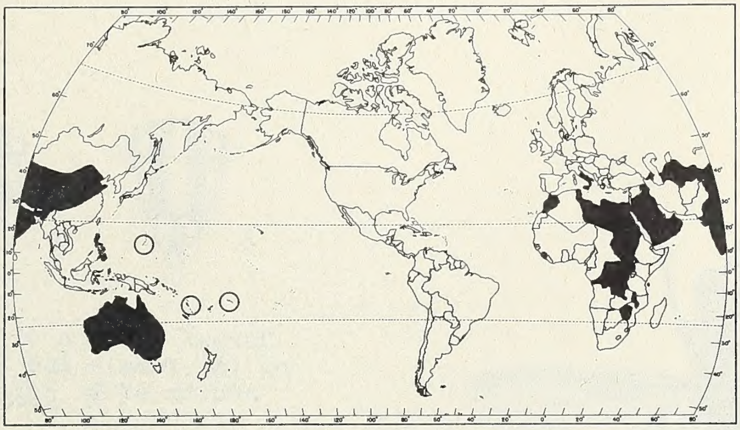
Household Insects: TERMITES (*Reticulitermes tibialis*) cause more and more concern each year. Infestations of a DEATHWATCH BEETLE (*Xestobium* sp.) occurred in houses in Powder River and Big Horn Counties, while CARPENTER ANTS (*Camponotus* sp.) were common in older houses and cabins in the southern part of the State. A PINE BORER (*Callidium* sp.) emerged from lumber in a new house in Scobey. CLUSTER FLY (*Pollenia rudis*) was abundant and annoying, while in the western half of the State STRAWBERRY ROOT WEEVIL (*Brachyrhinus ovatus*) was a common nuisance. Many SUN-SPIDERS (Solpugida) were sent in for identification from most areas east of the divide, and JERUSALEM CRICKET (*Stenopelmatus fuscus*) was a common curiosity. DERMESTIDS were very widespread and abundant. CLOVER MITE (*Bryobia praetiosa* complex) became more abundant in 1958.

INSECTS NOT KNOWN TO OCCUR IN THE UNITED STATES

A NOXIOUS MUSCID FLY (Musca sorbens Wiedemann)*

Economic Importance: This muscid is of considerable importance to the welfare of man and animals in the Ethiopian and Oriental regions. It is an important vector in the transmission of protozoan and bacterial diseases including dysentery, yaws, tuberculosis, trachoma, conjunctivitis, typhoid fever, etc. Musca sorbens is generally considered to be one of the primary filth flies in Guam and some other islands in the Pacific. It is very persistent in attempts to feed on open sores or wounds and will often fly into the mouth, nostrils, eyes or ears. The healthy flesh around the wounds, in corners of eyes, mouth, and around the vulva of cattle and horses in Australia will sometimes appear eaten away, leaving cavities. Animals may become so badly affected during the fly season that they may have to be destroyed. In Nyasaland it was found that 95 percent of the flies that frequent man were M. sorbens, being especially attracted by the odor of sweat on the unclean natives.

Distribution: Occurs in many areas of Africa, Asia and Oceania. It has been recorded in Egypt, Sudan, S. Rhodesia, Nyasaland, Uganda, Morocco, Tunisia, Libya, Belgian Congo, Sierra Leone, Saudi Arabia, Jordan, Aden, Iraq, India, USSR (Azerbaijan, Tadjikistan, Turkestan), North China, Philippine Islands, Australia, Guam, New Hebrides, Samoa and Italy.



General Distribution of Musca sorbens

Hosts: Attacks man and animals.

Life History and Habits: Life history and habits in Egypt are as follows: This fly is found more frequently outdoors than indoors, being fairly abundant in the country, in towns and open desert. Adult emergence is greatest between 5 and 8 a.m. during the summer. Emergence continues over period of 3-4 days in summer and 6-8 days in winter. A single female may lay up to 80 eggs, in 4 batches. The chief oviposition and breeding medium is human excrement and to a lesser extent, cow, buffalo and pig dung. (Horse dung also is preferred in Australia.) The species breeds year round with two peaks of season abundance; one in the spring and another late in the summer or in the fall. The fly is more abundant in districts with inadequate drainage system of sewage disposal. The life span at 24-30°C. averages about 21 days for the females and 18 days for the males. The females usually preponderate around breeding and feeding areas though the sex ratio is 1:1. The eggs hatch in about 6 hours under room conditions. The larvae pass through 3 instars, their duration being approximately 7, 14 and 40 hours at room conditions. The feeding larvae prefer humidities near saturation, while prepupating larvae prefer humidities with the range of 50-60 percent. Pupation takes place at varying depths in soil beneath the dung and lasts for approximately 6 days at 24°C. Humidity has no apparent effect on the pupa.

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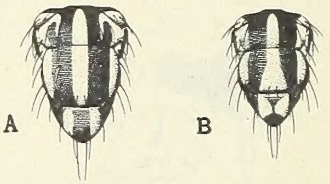
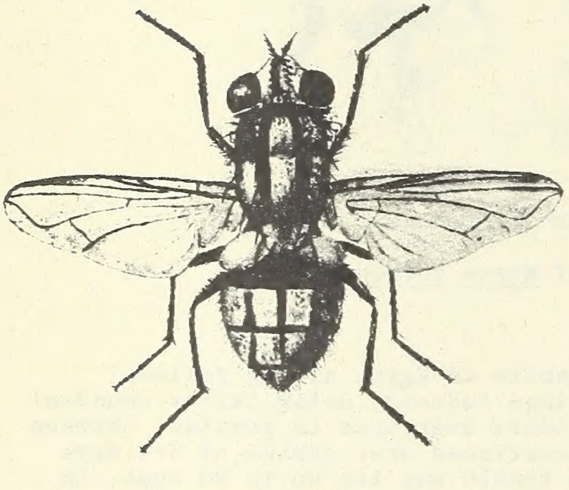
*Also known as the bush fly, Musca vetustissima, in Australia. No. 74 of Series (Muscidae, Diptera)

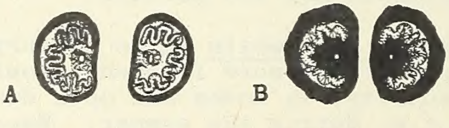
Description: Adult - antennae black; lower face and cheeks black with silky-white sheen. Frons deep-black with somewhat yellowish-white silky shining margins at eye cavities. Thorax grayish, almost submetallic shining with three white-shining stripes, the exterior stripes very broad, median stripe somewhat less broad, and in other direction appearing very distinctly gray on somewhat paler ground. Sides of thorax with white sheen, which forms nearly 2 oblique fasciae. Abdomen blackish with large yellowish-silky shining tessellation. Wings colorless, veins yellowish at base, halteres and squamae yellowish-white. Legs black. Length about 5-8 mm. *Musca sorbens* may be distinguished from *M. domestica* by the presence of two broad black thoracic stripes compared with four narrow stripes in *domestica*, the lateral, oblique, abdominal bands which extend from the anterior to posterior margins and the curvature of vein M-1 being greater than in *domestica*. Egg is pearly white, somewhat cylindrical with tapering anterior end. Length 1.6 mm; width 0.4 mm. Third-instar larva about 11.2 mm. long, posterior spiracles with 3 sinuous slits surrounded by D-shaped peritreme, the latter being much thicker than in *M. domestica*. Pupa is dark brown or chestnut, about 5.9 mm. in length; width 2.4 mm. (Prepared in Plant Pest Survey in cooperation with other ARS agencies.) CEIR 9(3)1-16-59



Dorsal Surface of Thorax
of (A) female and (B) male
Adults of *M. sorbens*



Adult of *M. sorbens*



Posterior Spiracles of Mature
Larva of (A) *M. domestica*
and (B) *M. sorbens*

Figures (except map): Adult from Iyo Konchu Gaku (Medical Entomology) Vol. 2, pp. 1135-1136, 1943. (In Jap.) Dorsal surface of thorax from Smart, J. 1943. A Handbook for the Identification of Insects of Medical Importance. 269 pp., London. Spiracles of mature larva from James, M. T. 1947. U. S. Dept. Agr. Misc. Pub. 631, 175 pp.

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